

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 19-23 AMEND claims 1, 6 and 11 and ADD new claims 24-26 in accordance with the following:

1. (CURRENTLY AMENDED) A device for checking user identification, comprising:
a calculation unit which calculates a check value by applying a user-specific formula to at least one randomly generated number; and

a matching unit which checks if the check value matches a user-entered value that is entered by a user in response to said at least one randomly generated number being presented to the user,

wherein the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number.

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2. (PREVIOUSLY PRESENTED) The device as claimed in claim 1, wherein said calculation unit outputs a fixed number, as the check value, if the user-specific formula consists of the fixed number.

3. (ORIGINAL) The device as claimed in claim 1, wherein the user-specific formula includes a variable that is an indication of a time at which said calculation unit calculates the check value.

4. (PREVIOUSLY PRESENTED) The device as claimed in claim 1, further comprising:

a control-data unit which stores therein user IDs and user-specific formulas associated

with respective user IDs;

a selection unit which selects one of the user-specific formulas from said control-data unit in response to a user ID of said user; and

a random-number generating unit which generates said at least one randomly generated number.

5. (PREVIOUSLY PRESENTED) The device as claimed in claim 4, further comprising a registration/updating unit which updates one of the user-specific formulas in the control-data unit with a user-entered formula only if the user entering the user-entered formula proves knowledge of said one of the user-specific formulas by entering said one of the user-specific formulas.

6. (CURRENTLY AMENDED) A method of checking user identification, comprising: calculating a check value by applying a user-specific formula to at least one randomly generated number; and

checking if the check value matches a user-entered value that is entered by a user in response to said at least one randomly generated number being presented to the user, wherein the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number.

7. (PREVIOUSLY PRESENTED) The method as claimed in claim 6, wherein said calculating of the check value comprises outputting a fixed number, as the check value, if the user-specific formula consists of the fixed number.

8. (PREVIOUSLY PRESENTED) The method as claimed in claim 6, wherein the user-specific formula includes a variable that is an indication of a time at which said calculating of the check value calculates the check value.

9. (PREVIOUSLY PRESENTED) The method as claimed in claim 6, further comprising:

storing user IDs and user-specific formulas associated with respective user IDs in a data

storage;

selecting one of the user-specific formulas from the data storage in response to a user ID of the user; and

generating said at least one randomly generated number.

10. (PREVIOUSLY PRESENTED) The method as claimed in claim 9, further comprising updating one of the user-specific formulas in the data storage with a user-entered formula only if the user entering the user-entered formula proves a knowledge of said one of the user-specific formulas by entering said one of the user-specific formulas.

11. (CURRENTLY AMENDED) A computer-readable medium having a program embodied therein to cause a computer to check user identification, said program comprising:

a calculation code unit which calculates a check value by applying a user-specific formula to at least one randomly generated number; and

a matching code unit which checks if the check value matches a user-entered value that is entered by a user in response to said at least one randomly generated number being presented to the user, wherein the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number.

12. (PREVIOUSLY PRESENTED) The computer-readable medium as claimed in claim 11, wherein said calculation code unit outputs a fixed number, as the check value, if the user-specific formula consists of the fixed number.

13. (ORIGINAL) The computer-readable medium as claimed in claim 11, wherein the user-specific formula includes a variable that is an indication of a time at which said calculation code unit calculates the check value.

14. (PREVIOUSLY PRESENTED) The computer-readable medium as claimed in claim 11, wherein said program further comprises:

a registration/updating code unit which stores user IDs and user-specific formulas associated with respective user IDs in a data storage;

a selection code unit which selects one of the user-specific formulas from said data storage in response to a user ID of said user; and

a random-number generating code unit which generates said at least one randomly generated number.

15. (PREVIOUSLY PRESENTED) The computer-readable medium as claimed in claim 14, wherein said registration/updating code unit updates one of the user-specific formulas in the data storage with a user-entered formula only if the user entering the user-entered formula proves a knowledge of said one of the user-specific formulas by entering said one of the user-specific formulas.

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16. (PREVIOUSLY PRESENTED) The apparatus as claimed in claim 1, wherein when the user enters a wrong user-entered value, the user is allowed to enter a new user-entered value in response to at least one new randomly generated number being presented to the user.

17. (PREVIOUSLY PRESENTED) The method as claimed in claim 6, wherein when the user enters a wrong user-entered value, the user is allowed to enter a new user-entered value in response to at least one new randomly generated number being presented to the user.

18. (PREVIOUSLY PRESENTED) The computer-readable medium as claimed in claim 11, wherein when the user enters a wrong user-entered value, the user is allowed to enter a new user-entered value in response to at least one new randomly generated number being presented to the user.

19. (CANCELED)

20. (CANCELED)

21. (CANCELED)

22. (CANCELED)

23. (CANCELED)

24. (NEW) A device to check user identification, comprising:

a processing unit to calculate a calculated value by applying a user-specific formula to one random number and to determine whether a user entered value matches the calculated value by presenting the random number to the user, the user-specific formula having elements, each of which is an operand or an operator, and is user-specific.

25. (NEW) A method of checking user identification, comprising:

calculating a calculated value by applying a user-specific formula to one random number;

and

determining whether a user entered value matches the calculated value by presenting the random number to the user, the user-specific formula having elements, each of which is an operand or an operator, and is user-specific.

26. (NEW) A computer-readable medium having a program embodied therein to cause a computer to check user identification, said program comprising:

a processing code calculating a calculated value by applying a user-specific formula to one random number and

a determining code determining whether a user entered value matches the calculated value by presenting the random number to the user, the user-specific formula having elements, each of which is an operand or an operator, and is user-specific.